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If July and August are hot and dry, expect spider mites

by Marlin E. Rice, Department of Entomology

My *Farmer's Almanac* predicts that July and August in Iowa will be cooler than normal, with the hottest temperatures in late June and mid-August, and with rainfall near normal. But as my grandfather would say, "I don't put much stock in the *Almanac*," meaning that a lot of things can change between now and then.

If the prediction is true and temperatures are cooler than normal, then spider mites would not be expected to be a problem in soybeans. However, there could be localized spider mite problems with hotter than normal temperatures in August, plus if there was a soil moisture deficit, then these conditions combined with the mites could put soybeans under terrible stress. But let's look ahead to how we would manage spider mites if problems did arise this summer.

Temperatures during July and August in the high 90s and low 100s typically prompt questions about how spider mites will affect soybeans. Many of us still remember the drought of 1988 and the millions of acres that were sprayed to control spider mites. Spider mites typically flourish in hot, dry weather because the fungal pathogens that suppress spider mites during high humidity and mild temperatures are less effective against mites during very dry and hot weather.

Mite watch 2006
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Spider mite injury causes small yellow spots called stippling. (Marlin E. Rice)

Before any soybean field is sprayed with an insecticide for spider mites, the field should meet three conditions. First, live spider mites should be present. Check for spider mites by knocking the upper soybean leaves against a piece of white paper or a paper plate. If very tiny dark spots crawl around on the paper, then you have live mites. Second, leaves must have "stippling" or small, yellow spots. This is an indication of feeding by spider mites. Third, very dry or drought conditions are currently being experienced or they are forecasted in the next week. Spider mite populations typically increase when soybeans are under drought stress.

An additional consideration before spider mites are sprayed is the choice of insecticide. Numerous insecticides are labeled for soybeans (see "Soybean insecticides for 2007," pages 79-80), but the pyrethroids (Asana® XL, Baythroid®, Pounce®, and Warrior®) sometimes make spider mite problems worse by eliminating all the beneficial insects while not killing all the spider mites. The result can be a "flaring" of spider mite populations, or an increase in the spider mite population, after the insecticide application. In other words, the whole thing kind of backfires, making the problem worse. Spider mites are best controlled in soybeans by using an organophosphate (dimethoate or Lorsban®, or its generic equivalent).

This July and August, if it's hot and dry, then forget the *Almanac*--walk your soybeans and scout for spider mites.



Edge of soybean field with dead plants caused by spider mites. (Marlin E. Rice)

Marlin E. Rice is a professor of entomology with extension and research responsibilities in field and forage crops.

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